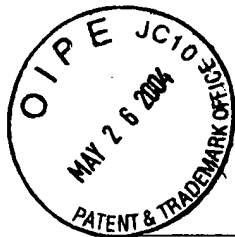


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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND
INTERFERENCES



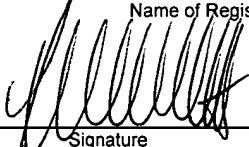
Docket No.: THEURER-21

In re Application of:)
JOSEF THEURER et al.)
Appl. No.: 09/501,251) Examiner: Jeffrey R. West
Filed: February 10, 2000) Group Art Unit: 2857
For: METHOD OF SURVEYING A TRACK)

BRIEF OF APPEAL

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

S I R:

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450", on <u>May 24, 2004</u> .	
(Date)	
HENRY M. FEIEREISEN	
Name of Registered Representative	
	5-24-2004
Signature	Date of Signature

This is an appeal from the final rejection of claims 1 and 3 by the Primary Examiner. The Brief is being filed in triplicate under the provisions of 37 C.F.R. 1.192. A check in the amount of \$330.00 to cover the requisite fee set forth in §1.17(c) is attached.

To the extent necessary, a petition for an extension of time under 37 C.F.R. §1.136 is hereby made. The Commissioner is hereby authorized to charge fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment to Deposit Account No. 06-0502.

(1) REAL PARTY IN INTEREST

The above-referenced patent application has been assigned to Franz Plasser Bahnbaumaschinen-Industriegesellschaft m.b.H, the real party in interest.

(2) RELATED APPEALS AND INTERFERENCES

There are no and there have been no related appeals or interferences.

(3) STATUS OF CLAIMS

The following claims are on appeal:

Claims 1 and 3 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 3,821,933 to Plasser et al. in view of U.S. Pat. No. 5,233,357 to Ingensand et al..

(4) STATUS OF AMENDMENTS

No amendment under 37 C.F.R §1.116 has been filed.

(5) SUMMARY OF INVENTION

The present invention, as set forth in claim 1, is directed to a track surveying method in which position coordinates of a stationary measuring vehicle (2) are determined at the start of each measuring cycle with the aid of the GPS receiver (13) relative to a fixedly installed GPS reference station (29) located adjacent the track section, wherein the coordinates of the GPS reference station are known within a terrestrial coordinate system. While the GPS measurement is provided to establish the position of the laser emitter only once and only at the beginning of each measurement cycle (page 4, line 23 to page 5, line 4, and page 9, lines 12-13), the subsequent surveying method is implemented through use of a laser reference line between the stationary vehicle and a mobile vehicle (1), independent of additional GPS measurements (page 9, lines 12-15, and page 10, lines 3-12). The surveying method according to the invention combines GPS measurement with a measurement using an optical beam, and sets forth particular time frames within which the GPS measurement and the optical measurement are provided to realize the necessary precision of the surveying method.

(6) ISSUES

Issue 1-Whether claims 1 and 3 are patentable under 35 U.S.C. §103(a) over Plasser et al. in view of Ingensand et al.?

(7) GROUPING OF CLAIMS

As to the rejection applied against Claim 3 under 35 U.S.C. §103(a), it is appellant's intention that Claim 3 stands or falls together with Claim 1.

(8) ARGUMENT

The Plasser et al. reference discloses a track liner using a laser beam gun to emit a reference beam to form a chord in the arc of a track curve, and a laser receiver, which is mounted on the liner. As described in col. 3, lines 8 to 25 and col. 8, lines 9-12, the position of the laser beam gun and the receiver are defined at the beginning of the operation in relation to fixed points. Track surveying is implemented by intermittently advancing the liner on the track curve and pivoting the laser beam gun to ascertain differences in the ordinates between two successive lining points. Thus, Plasser et al. discloses a track surveying process, using optical measurement only.

In order to establish a case of obviousness, the Examiner applies the Ingensand reference in combination with Plasser et al. Ingensand et al. describes a surveying system using a GPS system to determine the position of a total station. The Examiner refers in particular to the passage in col. 1, lines 21-30 in Ingensand et al., where reference is made to a satellite position-measuring system for position finding with geodetic accuracy in relatively short time intervals. On the basis of this passage, the Examiner then concludes on page 5,

sec. paragraph of the Final Office Action that since the artisan would interpret the Plasser et al. reference as *"a time-consuming and inaccurate method"* as far as the initial location determination of the mobile device is concerned, the artisan *"would be motivated to replace this initial system with the GPS system of Ingensand"*.

The Examiner appears to use appellant's own disclosure to arrive at this conclusion. Plasser et al. does neither expressly nor implicitly assign in the passages of col. 2 lines 27-32 or col. 8, lines 9-12 any disadvantage to the optical measurement in relation to fixed points at the beginning of the operation. In particular, nothing in the Plasser et al. reference would indicate to an artisan that the surveying method is "inaccurate" as the Examiner implied. To the contrary, Plasser et al., in fact, relates on numerous occasions to the accuracy of the method (col. 1, line 3; col. 1, line 54; col. 2, line 2, col. 3; line 26, col. 10; lines 27, 29).

The Examiner further asserts in the Final Office Action in the paragraph bridging pages 5 and 6, that *"[T]he optical method of Plasser [] is more complicated than simple position determination. [] Therefore [] one skilled in the art would not be motivated to replace this optical system with the GPS system. As noted above, however, the initial detection of a fixed location is not a complicated measurement and one having ordinary skill in the art would recognize the ability to replace a system that determines an initial position [] with the GPS system of Ingensand."* The Examiner referred in this context to various passages in Plasser et al. that deal with track maintenance operations such as

track lining, leveling or tamping that can be initiated in response to the track surveying method. These track maintenance operations have nothing to do with the actual surveying method but merely respond to the outcome of the surveying method. To conclude therefore that, since the track liner of Plasser et al. is able to carry out a wide array of operations, the artisan would therefore be motivated to use the GPS system only for determination of the initial position of the stationary device is ill-advised.

It is believed that the Examiner misinterpreted the disclosure of the Plasser et al. reference, and fell in this case into the hindsight trap “wherein that which only the inventor taught is used against its teacher”. In particular, the Examiner failed to appreciate appellant’s recognition of using a GPS system in combination with optical measurement in the particular time sequence, as set forth in Claim 1.

An artisan interpreting the Plasser et al. reference in a manner as the Examiner suggested would, in fact, take the teaching of Ingensand et al. and replace the optical measurement process of Plasser et al. in its entirety with the GPS system, as taught in Ingensand et al.. The Examiner himself underlines the benefits of the GPS system as “*a well known, accurate, and convenient system for determining the exact position of devices*”. Thus, the Examiner opined that, had the GPS system been available at the time of the Plasser et al. invention, the artisan would have utilized the GPS system. Applying this logic by the Examiner would lead to the only conclusion and motivate an artisan only to replace the “outdated” optical measurement of Plasser et al. entirely with the “advanced”

GPS system. This, however, would not produce the instant invention but merely would result in the prior art as described on page 4, lines 3-5 of the instant specification. The error in the Examiner's line of reasoning lies in the suggestion that an artisan would be motivated to modify only the initial stage of the optical measurement system according to Plasser et al. only as far as the initial stage is concerned. As stated above, there is no teaching or suggestion supporting this interpretation. The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Gordon, 733 F.2d at 902. Nothing in the applied prior art suggests this desirability of the modification. To the contrary, as stated above, the artisan would be motivated only to replace the whole optical measurement system of Plasser et al. with the GPS system of Ingensand et al. There is no motivation, suggestion or teaching that would lead the skilled artisan to the invention, as set forth in Claim 1.

In addition, appellant notes that the surveying method according to the present invention not only sets forth the use of the GPS system on the stationary measuring vehicle at the start of each measuring cycle, but also sets forth that the GPS system on the stationary measuring vehicle is implemented relative to a **fixedly** installed GPS reference station which is located adjacent the track section and whose coordinates are known within a terrestrial coordinate system. In contrast to the assertion by the Examiner that the GPS is accurate, appellant recognized, in fact, the inadequacy of the GPS system for use in track surveying and remedied this shortfall by determining the position coordinates of the

stationary vehicle in relation to the known coordinates of the fixedly installed GPS reference station with the aid of a GPS receiver mounted on the stationary measuring vehicle. Nothing in Ingensand et al. teaches or suggests the determination of position coordinates of the stationary vehicle in relation to the known coordinates of a fixedly installed GPS reference station, as set forth in Claim 1. Rather, Ingensand et al. describes only a direct GPS measurement which has the inherent inaccuracies recognized by the appellant.

It is therefore respectfully submitted that the rejection of Claim 1 under 35 U.S.C. 103(a) should be reversed.

As for the rejection of dependent Claim 3, this claim is considered allowable by virtue of its dependency from claim 1.

It is therefore respectfully submitted that the rejection of Claims 1 and 3 under 35 U.S.C. 103(a) should be reversed.

(9) CONCLUSION

Appellant has invented a novel and inventive track surveying method.

The cited prior art does neither teach nor suggest the essential features as defined in Claim 1 of the present invention but merely shows method steps which at some point may disclose an element of the present invention but not the novel and inventive combination. The question of obviousness is, however, not whether each element existed in the prior art, but whether the prior art made obvious the invention as a whole for which patentability is claimed. (In re Sernaker, 702 F.2d

989, 217 U.S.P.Q 1, C.A.F.C. 1983).

When considering the arguments set forth by the Examiner in the final rejection, appellant believes that the Examiner relied on hindsight in reaching his obviousness determination. As the C.A.F.C stated in W.L. Gore, 721 F.2d at 1553, 220 U.S.P.Q. at 312-313) "To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher". Thus, the use of hindsight reconstruction to pick and choose among isolated disclosures in the prior art to reject a claimed invention is ill-advised.

Therefore, the rejection of claims 1 and 3 on this prior art is not well taken.

For the above stated reasons, it is respectfully submitted that the rejection of the claims 1 and 3 issued by the Examiner on the references should be reversed.

Respectfully submitted,

By: 

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(10) APPENDIX

1. (Twice Amended) A method of surveying a track, comprising the steps of:
 - a) positioning a mobile measuring vehicle and a stationary measuring vehicle at end points of a track section to be measured during a measuring cycle, the mobile measuring vehicle being designed for mobility along a reference line in the form of an optical measuring beam between an emitter mounted on the stationary measuring vehicle and a receiving unit mounted on the mobile measuring vehicle and supported by flanged rollers on the track section;
 - b) determining, at the start of each measuring cycle, position coordinates of the emitter mounted on the stationary measuring vehicle, with the aid of a GPS receiver mounted thereon, relative to a fixedly installed GPS reference station located adjacent the track section to be measured, the coordinates of the GPS reference station being known within a terrestrial coordinate system;
 - c) aligning the reference line with the mobile measuring vehicle on the basis of the position data determined with the aid of the GPS receiver mounted on the stationary measuring vehicle; and
 - d) registering as a correction measurement value a change in position of the receiving unit relative to the reference line in dependence on an actual track position of the receiving unit transmitted by the flanged rollers, as the mobile measuring vehicle advances in the direction

towards the stationary measuring vehicle to survey the track, without the aid of the GPS receiver.

3. The method of claim 1, and further comprising the step of measuring a distance traveled by the mobile measuring vehicle by an odometer.